The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) A method of making an excimer laser crystal optic, said method comprising:

providing a solid magnesium fluoride crystal precursor

nonmetallically crushing said precursor to provide a crushed low metal contaminant feedstock,

providing a c-axis oriented magnesium fluoride seed crystal,

providing a crystal growth crucible, said crucible having a seed crystal reservoir for receiving an oriented seed crystal,

inserting said c-axis oriented magnesium fluoride seed crystal into said seed crystal reservoir,

loading said crushed feedstock into said growth crucible,

melting said loaded feedstock to provide a precrystalline melt,

growing a c-axis oriented magnesium fluoride crystal from said precrystalline melt,

cooling said grown crystal to provide a magnesium fluoride laser crystal with a 42 mm crystal 120 nm transmission of at least 30%,

and forming said magnesium fluoride laser crystal into an excimer laser crystal optic.

2. (previously presented) The method as claimed in claim 1, wherein providing a magnesium fluoride crystal solid precursor includes providing a purified magnesium fluoride crystal solid precursor.

3. (previously amended) The method as claimed in claim 1, wherein nonmetallically crushing said solid precursor includes containing said precursor within a flexible nonmetallic container while crushing.

4. (previously presented) The method as claimed in claim 1, wherein nonmetallically crushing said solid precursor includes providing a nonmetallic crusher.

5. (previously presented) The method as claimed in claim 1, wherein nonmetallically crushing said solid precursor includes containing said solid precursor within a flexible nonmetallic container and applying a nonmetallic crushing force to said solid precursor through said flexible nonmetallic container.

6. (previously presented) The method as claimed in claim 1, said method including providing a contaminant scavenger and scavenging contaminants from said magnesium fluoride.

7. (previously presented) The method as claimed in claim 1, wherein melting said crushed feedstock to providing a precrystalline magnesium fluoride melt includes melting no more than 90% of said c-axis oriented magnesium fluoride seed crystal.

8. (previously presented) The method as claimed in claim 1, wherein growing a magnesium fluoride crystal includes lowering said crystal growth crucible through a magnesium fluoride crystal growth temperature gradient at a rate no greater than 1 mm per hour.

9. (previously presented) The method as claimed in claim 1, wherein forming said magnesium fluoride laser crystal into an excimer laser crystal optic includes forming said laser crystal into a magnesium fluoride crystal optic window.

10. (previously presented) The method as claimed in claim 1, wherein forming said magnesium fluoride laser crystal into an excimer laser crystal optic includes forming said laser crystal into a magnesium fluoride crystal optic prism.

11. (previously presented) The method as claimed in claim 1, wherein said crushed low metal contaminant magnesium fluoride feedstock has metal contaminant levels of less than 1 ppm by weight.

12. (previously presented) The method as claimed in claim 1, wherein said crushed low metal contaminant magnesium fluoride feedstock has transition element metal contaminant levels no greater than .7 ppm by weight.

13. (previously presented) The method as claimed in claim 1, wherein said magnesium fluoride laser crystal has a Fe contamination level less than .15ppm Fe by weight; a chrome contamination level less than .06ppm chrome by weight; a copper contamination level less than .02ppm copper by weight; a cobalt contamination level less than .02ppm cobalt by weight; a nickel contamination level less than .02ppm nickel by weight; a vanadium contamination level less than .02ppm vanadium by weight; a molybdenum contamination level less than .02ppm molybdenum by weight; and a manganese contamination level less than .02ppm manganese by weight.

14- 16. Cancelled

17. (previously presented) The method as claimed in claim 1, wherein said magnesium fluoride laser crystal has an Al contamination level less than .7ppm Al by weight

18-19. Cancelled

20. (previously presented) The method as claimed in claim 1, wherein said magnesium fluoride laser crystal has a lead contamination level less than .02ppm lead by weight.

21-22. Cancelled.

23. (previously presented) The method as claimed in claim 1, wherein said magnesium fluoride laser crystal has a 42mm crystal 120nm transmission of at least 35%.

24. (previously presented) The method as claimed in claim 1, wherein said magnesium fluoride laser crystal has a 255nm induced absorption less than .08 Abs/42mm when exposed to 5 million pulses of 193nm light at a fluence $\geq$ 40mj/cm^2/pulse.

25. (previously presented) The method as claimed in claim 1, wherein said magnesium fluoride laser crystal has an 200 to 210 nm range absorption coefficient < 0.0017 cm^{-1}.

26. (previously presented) A method of making a magnesium fluoride optical crystal, said method comprising:

providing a solid magnesium fluoride crystal precursor material,

nonmetallically crushing said precursor to provide a crushed low metal contaminant magnesium fluoride feedstock,

providing a crystal growth crucible,

loading said crushed magnesium fluoride feedstock into said crystal growth crucible,

melting said loaded crushed feedstock to provide a precrystalline magnesium fluoride melt,

growing a magnesium fluoride crystal from said precrystalline melt,

cooling said grown crystal to provide a magnesium fluoride optical crystal having a 120nm transmission of at least 30%.

27. (previously presented) The method as claimed in claim 26, wherein providing said solid precursor includes providing a purified magnesium fluoride crystal solid precursor.

28. (previously presented) The method as claimed in claim 26, wherein nonmetallically crushing said solid precursor includes containing said magnesium fluoride within a flexible nonmetallic container while crushing.

29. (previously presented) The method as claimed in claim 26, wherein nonmetallically crushing said solid precursor includes providing a nonmetallic crusher.

30. (previously presented) The method as claimed in claim 26, wherein nonmetallically crushing said solid precursor includes containing said solid precursor within a flexible nonmetallic container and applying a nonmetallic crushing force to said solid precursor through said flexible nonmetallic container.

31. (previously presented) The method as claimed in claim 26, wherein said crushed low metal contaminant magnesium fluoride feedstock has metal contaminant levels less than 1 ppm by weight.

32. (previously presented) The method as claimed in claim 26, wherein said crushed low metal contaminant magnesium fluoride feedstock has transition element metal contaminant levels no greater than .7 ppm by weight.

33. (previously presented) The method as claimed in claim 26, wherein said a magnesium fluoride optical crystal has a Fe contamination level less than .15ppm Fe by weight; a chrome contamination level less than .06ppm chrome by weight; a copper contamination level less than .02ppm copper by weight; a cobalt contamination level less than .02ppm cobalt by weight; a nickel contamination level less than .02ppm nickel by weight; a vanadium contamination level less than .02ppm vanadium by weight; a molybdenum contamination level less than .02ppm molybdenum by weight; and a manganese contamination level less than .02ppm manganese by weight.

34-36. Cancelled

37. (previously) The method as claimed in claim 26, wherein said magnesium fluoride optical crystal has an Al contamination level less than .7ppm Al by weight

38-39. Cancelled.

40. (previously presented) The method as claimed in claim 26, wherein said magnesium fluoride optical crystal has a lead contamination level less than .02ppm lead by weight.

41-43. Cancelled.

44. (previously presented) The method as claimed in claim 26, wherein said magnesium fluoride optical crystal has a 255nm induced absorption less than .08

Abs/42mm when exposed to 5 million pulses of 193nm light at a fluence ≥ 40mj/cm^2/pulse.

45. (previously presented) The method as claimed in claim 26, wherein said magnesium fluoride optical crystal has an 200 to 210 nm range absorption coefficient < 0.0017 cm^{-1}.

46. (previously presented) A method of making an optical fluoride crystal, said method comprising:

providing a solid fluoride crystal precursor material,

nonmetallically crushing said solid precursor to provide a crushed low metal contaminant feedstock,

providing a fluoride crystal growth crucible,

loading said crushed feedstock into said growth crucible,

melting said loaded crushed feedstock to provide a precrystalline fluoride melt,

growing a fluoride crystal from said precrystalline melt,

cooling said grown fluoride crystal to provide an optical fluoride crystal having a 120nm transmission of at least 30%.

47. (previously presented) The method as claimed in claim 46, wherein providing a fluoride crystal solid precursor includes providing a purified fluoride crystal solid precursor.

48. (previously presented) The method as claimed in claim 46, wherein nonmetallically crushing said solid precursor includes containing said solid precursor within a flexible nonmetallic container while crushing.

49. (previously presented) The method as claimed in claim 46, wherein nonmetallically crushing said magnesium fluoride solid precursor includes providing a nonmetallic crusher.

50. (previously presented) The method as claimed in claim 46, wherein nonmetallically crushing said solid precursor includes containing said solid precursor within a flexible nonmetallic container and applying a nonmetallic crushing force to said solid precursor through said flexible nonmetallic container.

51. (previously presented) The method as claimed in claim 46, wherein said crushed low metal contaminant feedstock has metal contaminant levels less than 1 ppm by weight.

52. (previously presented) The method as claimed in claim 46, wherein said crushed low metal contaminant magnesium fluoride feedstock has transition element metal contaminant levels no greater than .7 ppm by weight.

53. Cancelled

54. (previously presented) The method as claimed in claim 46, wherein said optical fluoride crystal has a 255nm induced absorption less than .08 Abs/42mm when exposed to 5 million pulses of 193nm light at a fluence $\geq$ 40mj/cm^2/pulse.

55. (previously presented) The method as claimed in claim 46, wherein said optical fluoride crystal has a 200 to 210 nm range absorption coefficient < 0.0017 cm^{-1}.